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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,366	08/24/2001	Anthony T. Vu	GEMS8081.092	9522

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EXAMINER

SHAW, SHAWNA JEANNINE

ART UNIT PAPER NUMBER

3737

DATE MAILED: 12/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/682,366

Applicant(s)

VU

Examiner

Shawna J. Shaw

Art Unit

3737

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-10 is/are allowed.
- 6) ☒ Claim(s) 11, 14, 15, 17, 18, 20, 21, 23, 25 and 27 is/are rejected.
- 7) ☒ Claim(s) 12, 13, 16, 19, 22, 24 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 11, 14, 15, 17, 18, 20, 21, 23, 25 and 27 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

2. Claims 11, 16 and 18, are objected to because of the following informalities: In claim 11 line 10, "2D and 3D" should be –2D or 3D—because the 2D and 3D image data are not obtained concurrently. In claim 11 line 6, "Assembly" should be –assembly--. In claim 16 line 3, it appears that "ad" should be –and--. In claim 18 line 3, "2D and 3D" should be –2D or 3D—because the 2D and 3D image data are not obtained concurrently. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 18, 20, 21, 23, 25 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Kaufman et al.

Regarding claims 18, 20, 21 and 23, Kaufman et al. disclose an MRI apparatus including software (col. 10 lines 30-35) for using a common pulse sequence (e.g., SE,

FSE, etc. see element 352) to acquire MR images in 2D and 3D (element 354) as well as adjust FOV, slice thickness, etc., depending upon an operator's selection. See fig. 4A. In addition, the computer is configured to acquire partial k-space data when in the fluoro-mode.

Regarding claims 25 and 27, Kaufman et al. disclose an MR method including: identifying a desired imaging volume, entering real-time (i.e., fluoro-) mode using a modifiable pulse sequence and switching the modifiable pulse sequence between 2D to 3D mode (element 354, col. 6 lines 39-46) via user interface. See fig. 4A.

4. Claims 18, 20, 25 and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Zhang.

Regarding claims 18 and 20, Zhang discloses an MR computer program including using a common pulse sequence (e.g., SE, FSE) to acquire MR images in 2D and 3D (element 1020) as well as adjust FOV, slice thickness, etc. (1050A), depending upon an operator's selection. See e.g., fig. 10A.

Regarding claims 25 and 27, Zhang discloses an MR method including: identifying a desired imaging volume, entering a real-time monitoring mode (including real time feedback) using a modifiable pulse sequence and switching the modifiable pulse sequence between 2D to 3D mode (1020) via user interface. See e.g., fig. 10A.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 14, 15 and 17 are rejected under 35 U.S.C. 102(e) as anticipated by Kaufman et al. or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kaufman et al. in view of Zhang.

Regarding claims 11, 14, 15 and 17, Kaufman et al. disclose all of the claimed structure including a computer (24) programmed to modify a pulse sequence upon demand between a 2D and 3D pulse sequence (see element 354) as well as adjust FOV, slice thickness, etc. See fig. 4A and col. 6 lines 39-56. In addition, the computer is configured to acquire partial k-space data when in the fluoro-mode. Kaufman et al. does not explicitly address switching between 2D and 3D acquisition in real-time, however it appears that the 'real-time' switching recited in the preamble of claim 11 (of the present invention) is merely limited to intended use. On the other hand, Zhang discloses real-time sequence modification including switching between 2D and 3D pulse sequences (1020). It would have alternatively been obvious at the time the invention was made to a person of ordinary skill in the art to switch the pulse sequences of Kaufman et al. in real-time as taught by Zhang for more efficient user manipulation and feedback.

Allowable Subject Matter

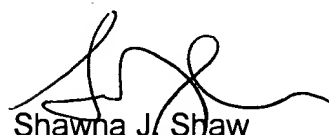
5. Claims 1-10 allowed.
6. Claims 12, 13, 16, 19, 22, 24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shawna J. Shaw whose telephone number is (703) 308-2985. The examiner can normally be reached on 6:45 a.m. - 3:15 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Casler can be reached on (703) 308-3552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Shawna J. Shaw
Primary Examiner
Art Unit: 3737
12/8/2004